programming or multiple standard definition programs on its allotted frequency. In either case, camage of the full broadcast DTV signal would occupy only one-half of the capacity of a digital cable system channel.[26]

In its *ex parte* filing of March 20, 2003, Public Television conclusively demonstrated that without full multicast carriage, public television stations "will either deteriorate to a substantial degree or fail altogether."*' It is the solid and documented conviction of public broadcasting's lcaders that multicasting is necessary to solidify existing audiences and reach new viewers. Multicasting is also necessary for public television to achicve greater financial support from local and national underwriters, foundations, state and local governments, and members. Because cable controls access to about 70 percent of American households, cable carriage of multicast services is essential in order for public television stations to achieve economic health in a challenging media environment. For example, national underwriters look for a minimum of 70 percent coverage beforc they will provide financial support for public television programming. Without cable camage, the ability of public television's multicast services to reach this underwriting threshold is a mathematical impossibility. The absence of cable camage will similarly thwart public broadcasters' efforts to seek financial support from other sources. Moreover, over three years of intensivc and largely unsuccessful efforts by public broadcasters to ncgotiate for full and fair voluntary cable carriage of their digital services have confirmed the obvious: a must carry requirement is necessary to rectify a market failure for services that Congress has repeatedly stated are in the public interest and should be widely disseminated to the American public.

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[26] *Ex Parte* Letter to Marlene Donch, Aug. 12, 2002.

[27] *Ex Parte* Comments of Public Television, Docket 98-120 (March 20, 2003)

C. The Commission Should Immediately Consider Rules for the Operation of Digital Translators

On May 29, 2002, Public Television petitioned the Commission to protect the existing system of translators and facilitate the development of digital translators and digital on-channel repeaters so that rural Americans will receive critical educational and public safety services over digital broadcast technology.** Through its system of full-power transmitters and through approximately 700 translators, public television provides services to nearly all television households. Using a fully converted digital system, public telcvision will be able to provide powerful and cost-effective nearly universal "last mile" services to meet the public's educational and public safety needs. Public television translator stations comprise key portions of the public television system. However, translators are threatened because they are currently considered a secondary service and because the Commission has yet to implement federal law, which allows licensees to operatc digital translators on thcir present analog channels.[29] Because millions of rural

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[28] See Association of Public Television Stations, Public Broadcasting Service and Corporation for Public Broadcasting, Petition for Rulemaking, Enhancement of Broadband Access Throueh the Preservation of Public Television Translator Service and the Development of Digital Translators and Digital On-Channel Repeaters (May 29, 2002).

[29] "lssuance of licenses for advanced television services to television translator stations and qualifying low-power television stations. The Commission is not required to issue any additional license for advanced television services to ...any licensee of any television translator station, but shall accept a license application for such services proposing facilities that will not cause interference to the service area of any other broadcast facility applied for, protected, permitted, or authorized on the date of filing of the advanced television application. ... A licensee of a ...television translator station may, at the option of licensee, elect to convert to the provision of advanced television services on its analog channel, but shall not be required lo convert to digital operation until the end of such lransition period." 47 U.S.C. § 336(f)(4). The Commission does not yet have rules governing digital translator operation. See NPRM, n. 107.

residents rely on this technology to receive television signals, the potential loss of current analog translator service would be devastating to these communities.[30]

The Commission has recognized the importance of translators, stating that they often provide "the only source of free, over-the-air broadcasting in rural areas."" Accordingly, the Commission has announced its intention to initiate a new proceeding examining the status of television translators and whether such stations could qualify for "some kind of primary status."'* The Commission has also signaled that it intends to initiate a proceeding concerning on-channel DTV boosters for service to areas that otherwise cannot be reached." Even in this proceeding, the Commission has sought comment on digital on-channel repeaters only in the context of "distributed transmission

[30] **A** study conducted by the Corporation lor Public Broadcasting in 1998 concluded that over 12 million Americans are served by public television translators. See Reply Comments of the Association of America's Public Television Stations, and the Public Broadcasting Service, Rural and Small Market Access to Local Television Broadcast Signals, Department of Commerce, National Telecommunicationc and Information Administration. Docket No. 000208032-0031-01 (May 15, 2000), citing Jerry Ostertag, ***Analysis** of Impact **of** Elimination **of** **Translarors,*** Corporation for Public Broadcasting, September **18,** 1998. Of these, over 2 million Americans receive no other public television service. Therefore, if these public television translators were lost, over 2 million Americans living in rural and small markets would lose access to all free, over-the-air public television services. This study establishes that the potential loss would affect not just **a** few scattered individuals in the aggregate, hut entire communities, with smaller, more rural communities suffering the most. Tor instance, two communities of more than 100,000 each, nine communities of 50,000 – 999,999, and **49** communities of 10,000 – 49,999 people, would lose complete access to all local public television scrviccs. Moreover, because **a** number of translators other translators in "daisy chains," **a** break in the chain may be likely to affect more communities than the community o l license for **a** single translator. The loss of a single translator could therefore multiply the loss of free. non-commercial services several-fold. Morcovcr, the loss of service will affect not only those vicwcrs who access tclevision signals over-the-air but numerous subscribers to rural cable systems nationwide. Although national figures are unavailable, numerous small cable systems in rural areas rely on the reception of telcvision translator signals at their headends to provide service to their customers. If translator service were to be shut down, not only would rural Americans who rely on over-the-air reception be denied service, a significant number of rural cable subscribers would also lose service **as** well.

[31] Establishment of **a** Class **A** Television Service, Report & Order, FCC 00-1 15, MM Docket No. 00-10 (April **4,** 2000), ¶35.

[32] Id

[33] See Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television, Report and Order and Further Notice of Proposed Rule Making, 2001 FCC LEXlS 408, FCC 01-24, MM Docket No. 00-39, ¶ 63 (rel. January 19, 2001). See also Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television, Memorandum Opinion and Order on Reconsideration, FCC 01-330, MM Docket No 00-39, ¶ 68 (rel. November 15, 2001).

technologies" (a concept that Public 'Television supports) while at the same time deferring consideration of translators as a whole to another proceeding.[34] On March 6, 2003, the Commission placed a pctition by the National Translator Association on public notice, seeking comment on the establishment of a rural translator service capable of distributing analog and digital signals.[35] Public Television supports the NTA proposal (with limited reservations) and looks forward to working with the Commission to address and resolve the issues associated with this pressing need.

IV. Comments on Specific lssucs Affecting the DTV Transition

The Commission has sought comment on a number of additional issues affecting the roll-out of digital services, including its various deadlines for channel election, replication, maximization and enhanced city-grade coverage, the relief it may afford stations without digital construction permits, the possible repeal or modification of the siinulcast rcquircments, the proper interpretation of Section 309(j)(14), the policy benefits of licensing distributed transmission technologies and a variety of other technical issues related to the build-out of digital facilities.

[34] NPRM, n. 107, ¶123.

[35] Media Burcau Seeks Comment on National Translator Association's Petition for Rulemaking to Establish a rural Translator Service, Public Notice, DA 03-622, RM 10666 (March 6, 2003).

A. Channel Election, Replication, Maximization and Enhanced City-Grade Requirements

The Commission has sought commcnt on the appropriate timing of its channel election,[36] replication[37] and maximization[38] requirements. Public Television agrees that all television broadcasters – public and commercial — with two in-core channels should elect which channel they wish to retain by May 1, 2005 with appropriate extensions of this deadline where the station has obtained an extension of time to construct digital

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[36] The Commission has sought comment on its proposal for a new channel election date of May 1, 2005 — the same for commercial stations as for public television stations. NPRM, ¶ 25. Previously, the Commission had required that public television stations with both DTV and analog channels in the core to elect which one to retain by December 31.2004 (commercial stations had until December 31, 2003). Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television, Report and Order and Further Notice of Proposed Rule Making, 2001 FCC LEXIS 408, FCC 01-24, MM Docket No. 00-39, ¶ 15 (rel. January 19, 2001) ("DTV Review Order"). Late in 2001, this date was temporarily deleted pending further reconsideration. Review of the Commission's Rules and Policies Affectina the Conversion to Digital Television, Memorandum Opinion and Order on Reconsideration, FCC 01-330, MM Docket No 00-39, ¶ I6 (rel. November 15, 2001) ("DTV Review Reconsideration").

[37] The Commission has proposed that the replication date be July 1, 2006 – the same for commercial and public television stations (commercial stations affiliated with the top-four networks in markets 1-100, however, would have a deadline of July 1, 2005). NPRM, ¶ 33. Prior to the issuance of this Notice, the Commission had required public television stations to replicate their NTSC service area by December 31, 2005 or lose interference protection to the unreplicated porlion of the service area (by way of comparison, conimcrcial stations had until December 31, 2004 to replicate). See DTV Rcview Order, ¶ 24. Late last year, this deadline was temporarily rescinded pending further consideration in this proceeding. DTV Review Reconsideration, ¶ 24.

[38] The Commission has allowed stations to "maximize" their digital coverage area to match those of the major VHF stations in the market, provided that this "maximization" would comply with certain interference criteria. Sixth R&O, ¶ 31, and 47 C.F.R. § 73.622(f)(5). See also 47 C.F.R. § 73.622(f)(4) (allowing UHF DTV stations to increase power up to a maximum of 1000 kW ERP). This important policy was designed to ensure parity between VHF and UHF stations, the latter of which was required to operate at lower power and thus initially have a smaller DTV service area than their VHF counterparts. NPRM, ¶ 31. For public television stations, this was an especially important policy, as 338 public television stations, or nearly 95 percent have UHF digital allotments (as of April, 2002). The Commission has proposed that there be a maximization deadline of July 1, 2006: the same date for commercial and public television stations and a date concurrent with its proposed replication deadline (commercial stations affiliated with the top-four networks in markets 1-100, however, would have a deadline of July 1, 2005). NPRM, ¶ 33. Prior to thc Commission's Notice, no deadline for maximization had been established, although on June 18, 2002, Media Bureau froze all maximization requests for charnels 52-59 and on January 23, 2003, the Bureau froze all maximization requests for channels 60-69. NPRM, ¶¶55-56.

facilities due to circumstances beyond the licensee's control. Thereafter, by the end of the transition in each market, but no earlier, all television broadcasters should be required to both replicate and maximize the DTV coverage area of their final channel or lose interference protection to the unreplicated and unmaximized portions of that DTV coverage area.

Public Television believes that any rational build-out plan will allow television broadcast stations a reasonable amount of time to consider the propagation patterns, costs and other factors associated with each of their dual channels so that broadcasters will he able to make an informed choice of which channel to retain, *prior* to the time that any replication or maximization requirement takes effect. This will ensure that a broadcaster will not he forced to invest in replicated or maximized facilities for allocations that might be returned to the Commission, which would entail an unnecessarily wasteful investment of private and public capital that public television stations – and the funding sources upon which they rely – can ill afford. In addition, if the Commission were to require broadcasters to replicatc and/or maximize prior to the channel election deadline, the Commission and other broadcasters in each market (and adjacent markets) would be faced with the technically difficult issue of how to "carry over" the replicated and maximized facilities to the final channel without interference to other operations. This would enmesh the Commission in an excessively large number of interference disputes as it attempts to construct a final DTV Table of Allotments.

The Commission has also sought comment on how its replication and maximization requirements would apply to stations with out-of-core DTV assignments and whether its replication and maximization requirements should be different for this class of stations as

compared to stations with DTV channels within the core. Public Television believes that stations with out-of-core channels should not be required to replicate or maximize on the out-of-core channels. This policy would avoid the waste of public and private capital that a replication or maximization requirement these channels would entail, as these channels will ultimately be returned to the Commission. Moreover, not requiring these channels to replicate and/or maximize will avoid the administratively complex interference issues of transferring replicated and/or maximized coverage from the out-of-core channel to an in-core channcl.

Lastly, the Commission has also sought comment on whether the city-grade requirement is serving its purpose." The Commission has asked whether it should adopt an intermediate signal coverage requirement beyond a broadcaster's current obligation to cover its community of license and whether it should change the city grade deadline to an earlier date or change it in other respects.[40] While Public Television supports the current Commission rules by which a city grade signal should be provided to a station's principle city of license by December 31, 2005, establishing an earlier date would be disruptive for station planning, especially for statc licensees that must submit cost analyses for approval by thcir state governments well in advancc of spending due to state budget planning policies, and would serve littlc purpose other than imposing greater costs on public broadcasters that are already struggling financially. In addition, in some circumstances,

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39 By December 31, 2005, public television stations are required to provide a "city-grade" signal that is 7dB stronger to their principle communities or cities of license than what they were initially required to provide. DTV Review Order, ¶ **27;** and DTV Review Reconsideration, ¶ **39.** The goal of this "city grade" signal requirement **was** to ensure that the majority of a station's analog service population would be able to receive a digital service. NPRM, ¶ 36. The Commission has noted that while it temporarily deleted its replication deadlinc, the principle community coverage requirement remained intact. NF'RM, n. **5.**

40 NPRM. ¶36

depending on what the increased power requirements would be, stations will have to purchase additional equipment or upgrade present equipment (e.g. purchase bigger cabinets or modify the transmission lines) to meet this requirement. This may require another timc-consuming round of applications for grants from either federal or state authorities and would impose additional expenses on these stations that they can ill afford at this time.

B. Relief for Licensees without DTV Construction Permits

The Commission has noted that those stations that have not yet been granted a DTV construction permit have not yet been required to construct DTV stations.[41] The Commission has proposed that such stations must commence DTV service pursuant to special temporary authority within one year from adoption of the Report and Order in this proceeding with waivers considered on a case-by-case basis in limited circumstances.[42] The Commission has sought comment on this proposal and whether its channel election, replication and maximization deadlines should apply to these stations.[43]

A number ofpublic television stations have either not received initial DTV construction pcrmits or havc applied for additional or replacement DTV allotments that are

[41] NPRM, ¶61.

[42] *NPRM*, ¶62.

[43] NPRM, ¶ 62

subject to pending Commission proceedings.[44] These applications are typically made to reduce interference to other stations, to cxpand service to new areas not served by a full-power NCE signal (for instance, to replace translators), and to seek in-core channel allotments where the station had been allocated an out-of-core channel. In addition, as noted above, some public television stations –such as Vermont Educational Television, WCMU (Mt. Pleasant, MI), WFUM (Flint, MI) and WGTE (Toledo, OH) –have cxpcricnced problems with international coordination, especially with Canadian authorities. Thcsc international coordination problems have delayed the granting of a construction permit and have been beyond the licensee's control.

Public Television believes that it would be a waste ofprivate and public capital for a station to be required to construct DTV facilities pursuant to a STA within one year from the adoption of the Report and Order in this proceeding if the eventual construction permit would be denied for reasons of interference or international coordination. A more rational policy would be to delay the construction deadline for those stations without construction permits until a construction permit is issued. After a conshuction permit is issued, these stations should bc required to construct within a reasonable amount of time (e.g. one year or more). By the time the construction permit is panted, these stations will likely have chosen which channel will be their pcrmanent digital channel (presumably the one for

[44] These include, but are not limited to, WEDH (informal objection to maximization proposal and conflicting allotment proposal); Mississippi Authority for Educational Television (seeking a substitute channel at Boonville); WKNO (application for new DTV only channel at channel '56); WXXl (application for new DTV only channel at channel * 61, with petition to substitute it for an in-core channel); the University of Florida (Gainesville) (application for new digital only channel at Crystal River on channel 39); WSDE in Duluth (recently allocated channel 31 this year- CP application not yet filed); KOCV (Odessa. TX) (pending application for a CP due to a channel change effective Jan 27,2003); KACV (Amarillo, TX) (pending application for CP due to channel change, authorized September 23, 2002); WNVT (Fairfax, VA) (pending application for CP due to desire to operate in digital only); KSRE (Fargo, ND) (CP pending channel assignmcnr change approval by FCC); and WGTV, WABW and WXGA, all operated by Georgia Public Broadcasting (pending petitions to change channel assignments).

which the CP is granted), so the channel election deadline may be waived for these stations. In addition, any requirement to replicate and/or maximize should be the same for these channels as for others and should come at the end of the DTV transition in the relevant market.

C. Simulcasting Requirement

The Commission has asked whether it should retain, revise or remove its simulcast requirement, which for public television stations begins on May 1, 2003.[45] On March **24,** 2003, representatives of public television petitioned the Media Bureau to temporarily suspend this requirement until the Commission has ruled on the issue in this proceeding.[46] This petition noted that while commercial television stations had a minimum of 11 months between the time they were to complete DTV construction and the beginning of their simulcast requirements, no time lag existed for public television stations between their mandatory construction date and the beginning of simulcast requirement. Moreover, the letter stated that some public television stations will be unable for some time to comply with the simulcasting requirements. In these cases, although the DTV stations are able to receive and broadcast PBS or other digital programming utilizing temporary satellite dishes located at their transmitters, necessary

[45] **NPRM,** 1/66. Commission regulations state that beginning on April 1, 2003, all DTV television licensees must simulcast on their DTV channels *50* percent of the video programming broadcast on their analog channels. On April 1, 2004, stations **must** simulcast 75 percent. On April 1, 2005, stations must simulcast 100 percent. 47 C.F.R. § 73.624(f). Although the 50 percent deadline is officially April I, 2003 for **all** broadcasters, this **is** one month prior to the deadline by which public television stations are required *to* complete construction of their DTV facilities (May 1, 2003). Accordingly, the FCC has suggested that May 1, 2003 **is** the initial date that lriggers the *50* percent simulcast requirement for public television stations. NPRM, n. 94.

[46] Emergency Request for Temporary Suspension of DTV Simulcasting Requirements for NCE TV Stations Pendinr Rcsolution of Second Periodic Review, MB Docket 03-15(March **24,** 2003).

STL or other digital interconnection facilities between their studios and the transmitters are not yet in place, making it difficult or impossible for the DTV stations to receive the simulcast programming feed from their studios. In other cases, encoding equipment to enable the station's NTSC programming to be digitized for DTV broadcast has not yet been delivered and/or installed.

Public Television opposes the continuation of the simulcast requirement. By requiring a simple repetition of the analog feed on the digital channel, the simulcast rcquirement discourages thc flexible and innovative use of the digital medium, does little to drive consumer acceptance of digital television services and therefore does nothing to advance the digital transition.[47] The simulcasting requirement was intended to ensure that consumers enjoy a continuity of service when the analog spectrum is reclaimed at the conclusion of the transition.[48] But it is precisely a discontinuity of analog broadcasting's limited service – namely new and innovative digital programs and services – that will drivc consumer acceptance of digital technology and thereby promote the digital transition and the ultimatc return of analog spectrum. Moreover, it is more likely that by encouraging diverse and innovative digital programming, and by retaining its minimum hours of operation rules, the Commission may provide greater incentives for consumer

[47] Sce NPRM, ¶ *66*

[48] NPRM, ¶ *65*.

adoption of digital services in a more content-neutral manner."

D. Interpretation of Section 309(j)(14)

The Commission has sought comment on a number of issues relating to the **proper** interpretation of Section 309(j)(14)(B) of the Communications Act, which governs the return of the analog television spectrum and conditions for extensions thereof on a market-by-market basis.[50]

Beneficiaries of the Extensions. The Commission has asked whether it has the authority to grant blanket extensions to all stations in a market, to particular stations that successfully petition the Commission for an extension of time, or on a national basis.[51] Public Television believes that the plain language of the statute and good policy dictate granting extensions *to* all stations in a market." While Section 309(j)(14)(B) authorizes the Commission to extend the analog return date "for any station that requests such extension," this authority extends to situations where certain market conditions apply

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[49] Instead, Public Television would support the Commission's proposed minimum hours of operation proposal, whereby public television stations subject to the May 1, 2003 construction deadline must air, by May 1, 2003, a digital signal for an amount of time equivalent to 50% of the amount of time they provide an analog signal (which may be less than 24 hours each day). NPRM, ¶ 68. This minimum digital operation requirement would increase to 75% on April 1, 2004 and to 100% on April 1, 2005. Id.

The Commission has also sought comment on how a definition of simulcasting could affect the concept of substantial duplication where digital must-carry is concerned if it were to retain its simulcast requirement but craft a definition appropriate to digital operations. NPRM, 7\67. This question, however, is premised on a misreading of the relevant carriage statute. For purposes of the carriage of noncommercial educational stations, certain cable systems need not carry "stations" that substantially duplicate one another. Thus the "substantial duplication" standard applies between stations and not between the analog and digital ***signals*** of the same station. See 47 U.S.C. §§ 535(b), (e).

[50] See NPRM, ¶¶ 69 et seq., **and 47 U.S.C.** § 309(j)(14)(B).

[51] NPRM, ¶ 71

[52] The Commission has also sought comment on when stations should be required to file extension requests. NPRM, ¶ 71. Public Television believes that this decision regarding the timing of extension requests is wholly within the Commission's authority.

equally to all stations in that market. Thus, it would be anomalous, and indeed unfair to other stations, if only the petitioning station were to benefit from an extension of the analog reclamation whcre market conditions affect all stations in the market. Moreover, the purpose of the extension provision is to ensure that whcre digital services have not sufficiently gained consumer acceptance in a market, analog viewers in that market would not be disenfranchised. Because the purpose is essentially for the public's benefit, and not for the benefit of any one broadcast station, a proper construction of the statute in accordance with its consumer-friendly purpose would require the Commission to grant extensions throughout thc market.

Definition of a Market. The Commission has also asked for comment on the proper the definition of a television market for purpose of granting extension requests. The Commission has asked whether a television market should be the Nielsen DMA, the Grade B contour of a requesting station, or a modified Grade B contour standard.[53] Public Television believes that relevant market definition should be the Nielsen DMA. It is the most usual measure of a market in the industry and is for the most part the definition upon which stations base their business plans. Moreover, using the Nielsen DMA would be consistent with the means by which local stations gain carriage rights on satellite through thc local-into-local provisions of the Satellite Home Viewer Improvement Act, which also

[51] NPRM. ¶ 72-75.

relies on Nielsen DMAs.[54] By way of contrast, using the Grade B contour of a station to define a market would make little sense where, as Public Television has argued above, the Commission is authorized to grant extensions of the analog reclamation on a market-wide basis to ensure that analog consumers are not disenfranchised where digital service penetration has not reached the acceptable level.[55]

Thc Commission has also asked for comment on instances where a station's analog signal market encompasses multiple **DMA's.** In this case, the Commission has asked whether a modified **DMA** tcst would be more appropriate. For instance, where a station's signal reaches both its "home" **DMA** and another neighboring **DMA** with significant viewership, the Commission could require that both **DMA's** meet the statutory criteria before the analog spectrum is returned." The Commission has also asked what percentage of viewership in the secondary **DMA** should be required before return of the analog spectrum is required: 85 percent or some lower threshold?[57] Public Television believes that the return of analog spectrum should only occur when the last **DMA** in which a station's signals are received has reached the statutory 85 percent threshold. Thus the

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[54] 17 U.S.C. § 122(a). See also 47 U.S.C. § 339(a)(1)(B) ("[A]ny satellite carrier may also provide service under the statutory license of section I22 of title 17, United States Code, to the local market within which such household is located."). **A DMA,** or "designated market area," means a designated market area as determined by Nielsen Media Research and published in the 1999-2000 Nielsen Station Index Director and Niclsen Station Index United Statcs Tclcvision Household Estimates or any successor publication. I7 U.S.C. § 122(j)(2)(C). **A** noncommercial station's **DMA** includes "any station that **is** licensed to a community within the same designated market area **as** the noncommercial educational television broadcast station," and **also** includes the county in which the station's community of license **is** located. **17** U.S.C. § 122(j)(2)(A)-(B).

[55] The Commission should be aware, however, that for purposes ofcable carriage, a local noncommercial educational station is entitled to must-carry status if it **is** licensed to a principal community whose reference point **is** within 50 miles of the principal headend of the cable system or if the station's Grade B service contour encompasses the principal headend. **47** U.S.C. I 535(l)(2). See also **47** C.F.R. § 76.55(b)(1-2).

[56] NPRM, ¶ 77

[57] NPRM, ¶ 77

threshold should be the same in both DMAs to ensure that analog viewers are not disenfranchised in the secondary market, even if digital penetration is sufficient to meet the 85 percent mark in the primary market. In addition to comporting with the general purpose of the extension provision, this position also flows naturally from the plain language of Section 309(j)(14)(B), which does not grant the Commission authority to establish lower thresholds for some markets over others.

Converter Technology Test. For purposes of satisfying Section 309(j)(14)(B)(ii), the Commission has solicited commcnt on the proper definition of "digital-to-analog converters."[58] Public Television agrees with the Commission that to satisfy this test, digital-to-analog converters must convert all forms of digital broadcast signals to analog, including all HDTV formats.[59] To include converters that cannot convert some forms of digital broadcast signals (particularly HDTV) to analog would frustrate the purpose of this statutory provision, which is to ensure that consumers are able to view all forms of digital broadcast signals in any format available in their market, not just some forms of digital broadcast signals. In addition, the Commission has sought comment on how to account for situations where a cable system down-converts digital signals to analog at the headend.[60] This should not count toward the statutory definition of "digital-to-analog convcrtcr technology." The purpose of this provision is to ensure consumer access to digital signals in their homes. But downconverting digital broadcast signals at the hcadend does not ensure this access. In fact this method ensures that digital broadcast signals are never received in the home, as the digital signal is stopped at the headend and

[58] NPRM, ¶ 82.

[59] NPRM, ¶ 82.

[60] NPRM ¶ 83.

then converted to analog. This unnecessarily disenfranchises consumers, who should have the choice to access those signals through whatever means they feel appropriate, and it violates the purpose of the statute."

The 15 Percent Multichannel Video Programming Distributor ("MVPD") Digital Subscription Test. The Commission has also solicited comment on a number of issues concerning the 15 percent MVPD digital subscription test for purposes of Section 309(j)(14)(B)(iii). The commission has noted that a literal reading of the statute requires that a MVPD carry all DTV stations in a market to satisfy the first prong of the 15 percent test, but it has observed that in almost all DMA's there are stations not carried by systems either under must carry or retransmission agreements, either due to poor quality signals, the fact that the cable system has reached its one-third cap or other factors.[62] The Commission has asked whether the rule applies only to stations entitled to must carry or to all stations in a market.[63] Public Television believes that the purposes of the statute would be best served by counting a MVPD that carries those local broadcast digital stations that are *eligible* for must carry status. This would include all eligible full-power stations, public telcvision translator stations (if operating in digital) and some low powcr stations, depending on the eligibility requirements in statute and the Commission's rules (e.g. the provision of a good quality signal). This policy would ensure that the

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61 Section 309(j)(14)(B)(iii) provides further guidance in this regard. This provision also references "digital to analog converter technology" and specifically requires that "households" have access to this technology. 47 U.S.C. § 309(j)(14)(B)(iii). This provision and Section 309(j)(14)(B)(ii) should be read in ***pari materia*** to ensure consistency within the same statute to accomplish the same purpose: consumer access in the home to such technology.

"NPRM, ¶85.

63 NPRM, ¶ 87. The Commission has also asked whether its tule should apply only to primary, full-power stations, or whether it should include LPTV stations such as **Class A** or translator stations. NPRM, ¶88.

maximum number of digital stations are carried on the MVPD prior to the return of the analog spectrum

The Commission has further solicited comment on whether subscribers to a MVPD carrying digital signals should be counted if they are not actually able to view the signals (presumably either because they lack the equipment to view such signals or do not subscribe to the digital tier).[64] The Commission has concluded that to count subscribers who cannot view the digital product would be inconsistent with congressional purpose and has proposed to require that households be able to view DTV signals if they are to count toward the 15 percent, meaning subscribers should be able to view DTV signals either in digital mode or down-converted to analog mode in their homes.[65] Public Television agrees with the Commission that this reading of the statute is appropriate and promotes the purpose of the statute, provided that any down-conversion of the digital signal is accomplished in the home so that if consumers so choose, they may access digital signals in the format they were intended.[66] In this regard, Public Television believes that cable systems that downconvert digital signals to analog at the cable headend should not be considered to be "carrying" digital broadcast signals within the meaning of Section 309(j)(14)(B)(iii)(I).[67]

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[64] NPRM, ¶ X9

[65] NPRM, ¶89.

[66] In addition, the Commission has asked where a translator rebroadcasts the DTV signal of its parent to a MVPD hut in analog format, whether those subscribers should count toward the **I5** percent threshold. NPRM, ¶89. Public Television believes that subscribers who receive these translators cannot he counted ioward the 15 percent threshold, **as** the households receiving the signal of these stations via their MVPD would not be capable of receiving digital signals from analog translators even if they purchased the appropriate digital display equipment. If counted, these subscribers would run the **risk** of losing access to any of these signals once the analog spectrum **is** returned, a result that **is** contrary **to** the purpose of the statute. This issue underscores why it is important to create rules for the operation ofdigital translators, many of which feed cable headends in **rural** areas.

[07] See NI'RM ¶ 89

Responsibility for Determining Marker Conditions. The Commission has noted that while Section 309(j)(14)(B) seems to imply that the burden of demonstrating relevant market conditions lies with the broadcaster rcquesting an extension of the date for the rcturn of analog spectrum,[68] the legislative history contemplates that the Commission will perform its own analysis and conduct a consumer survey to determine whether the criteria specified in Section 309(j)(14)(B)(ii)(converter technology test) or Section 309(j)(14)(B)(iii)(I5 pcrcent test) apply in the market.[69] For instance, the Conference Report states:

> In addition, the conferees recognize that this analysis [under 309(j)(14)(B)(iii)] will impose additional burdens on the Commission. Consequently, the conferees expect that the Commission will pursue this analysis only if it first concludes that a station does not qualify for an extension under the network digital television broadcast test or the converter technology test.
>
> In establishing the requirements for the 15 percent test, the conferees sought to establish objective criteria that could be determined by "yes" or "no" answers obtained from consumers surveyed in the relevant market. The conferees expect that the Commission will perform its own analysis, and that it will base this analysis of both the converter technology test and the 15 percent test on statistically reliable sampling techniques. A broadcast television licensee requesting the extension and other interested parties are to be afforded an opporiunity to submit information and comment on the Commission's analysis with respect to those tests.'"[70]

Public Television believes that a proper reading of this statute and legislative history requircs the Commission to monitor market conditions and give notice to broadcasters in each market concerning its analysis whether that market has reached, or is

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[68] "The statute provides that the Commission shall grant an extension "for any station that requests such extension" if the Commission finds that the statutory condifions are met. This language could be read to require the station seeking an extension to provide the necessary information to justify the extension under one or more of the statutory criteria." NPRM, ¶ 93.

[69] Id.

[70] NPRM, 493, quoting Balanced Budgct Act of 1997, 105th Cong., 1st Sess. Conf. Rep. 105-217, at 577-578 (1997).

likely to rcach, the 15 percent threshold set forth at Section 309(j)(14)(B)(iii).[71] Once this information is provided to broadcasters in each market, the broadcasters should have an opportunity to comrncnt on the completeness and/or accuracy of this determination. As thc legislative history indicates above, the Commission should conduct the bulk of the market analysis first. This sequence gives meaning to the requirement above that it is expected that the Commission will "perform its own analysis ... on statistically reliable sampling techniques" and that "broadcast television licensee requesting the extension and other interested parties are to bc afforded an opportunity to submit information and comment on the Commission's analysis."" Thus, to make its case, a station should be authorized to present data on market conditions to the Commission in support of its request, but it should not be required to shoulder the entire burden of data collection: this is the province and expertise of the Commission itself, as the legislative history recognizes.

E. Distributed Transmission Technologies

On June **6,** 2002, NAB and a number of other parties, including APTS, PBS and Pennsylvania State University urged the Commission to gant primary status to the multiple transmitters in a distributed transmission system and license them under Part 73 ofthe rules, as opposed to treating them similarly to LPTV, translator, and booster stations." Distributed transmission has been defined as being similar to a cellular

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71 **By *way* of** contrast, **as** the legislative history above indicates, **the** Commission may not be **required** to monitor market conditions network digital television test or the converter rcchnology test.

72 NPRM, 7\93,quoting Balanced Budget Act of 1997, 105th Cong., 1st ***Sess.*** Conf. Rep. 105-217, at 577-57R (1997).

13 Letter from Valerie Schulte, NAB, to **Rick** Chessen, Associate Bureau Chief, Media Bureau (June 6, 2002).

telephone system in that a service area is divided into a number of cells, each served by its own low power transmitter.[74] Distributed transmission differs from a cellular telephone system in that all adjacent cells use the same frequency (a "single-frequency network").[75] The Commission has sought comment on a number of issues related to distributed transmission systems and the proposal to grant these services a limited kind of priority.[76]

As the Comments of Menill Weiss Group" in this proceeding explain, distributed transmission technology can offer solutions to a number of difficult system design problems that often can be resolved in no other way. It has applications to reach blocked populations within a station's service area. This is especially important in hilly or mountainous terrain with large populations living in valleys. It can be useful when a station is unable to obtain sufficient tower capacity at an adequate height to reach the servicc area that has been allotted to it. It can be used when a station has started with a small service area and needs to maximize that service area without enlarging its central facility. It is thc only method that can allow relatively uniform signal levels to be achieved throughout a widely dispersed servicc area so as to enable, for example, rcccption using indoor antennas while at the same time not increasing interference to neighboring broadcasters. Distributed transmission can also allow broadcasters to locate their main transmitters at locations optimized for serving large DMAs while at the same time obtainingnecessary City Grade service over outlying communities. And it can help

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"*See* comments filed in response to the *Notice of Proposed Rule Making* in MM Docket No. 00-39, including those of the Merrill Weiss Group ("Weiss").

[75] Id.

[76] NPRM, ¶¶ 99-106.

[77] Comments of Merrill Weiss Group, MB Docket No. 03-15 (April 21, 2003), p. 7.

with replication of NTSC service by DTV facilities that otherwise might not be able to achieve the coverage needed, especially in cases of VHF broadcasters moving to UHF channels

Recent demonstrations of a similar technology – namely digital on-channel repeaters – have shown that distributed transmission networks can be both technically feasible[78] and spectrum efficient.[79] In addition, ATSC reports in its comment in this

[78] For some time, work has been done on the feasibility and reliability ofon-channel DTV repeater tcchnology. Comments ofthc Merrill Weiss Group, MM Docket No. 00-39, p. 21 (May 17, 2000), ciring S.A. Lery. W.H. Paik, and R.M. Kast, "Extending HDTV Coverage using Low Power Repeaters—a Cellular Approach," IEEE Transactions on Broadcasting, Vol. 38, No. 3, pp. 145-150 (Sept. 1992). For instance, in 1998 the Advanced Television Technology Center ("ATTC") began to investigate the feasibility of using this technology within the ATSC 8-VSB digital television system to extend the signal of a main station to remote and RF-challenged locations. See Comments of the Advanced Television Technology Center, MM Docket No. 00-39, pp. 1-2, 4-9 (June 16, 2000). On September 4, 1998, ATTC perfotmcd a real-world test and analysis that confirmed that a properly engineered digital on-channel repeater could work in conditions where the target audience was shielded from the main transmitter by terrain. ATTC selccted a site in Charlestown, WV that was shielded from the Washington, DC area by a low ridge of mountains and successfully repeated the DTV signal of public television station WETA on the same channel to Charlestown by using digital on-channel repeater technology. Id. ATTC achieved a nearly 100 percent success rate. Id. It concluded that this technology could be used "in terrain isolated topology to extend reliable coverage into areas of marginal DTV service." Id. at 8. It also concluded that this technology would be able to "improve cnverage areas where low signal strength and strong multipath exists by increasing the received signal strength well above the original primary-only signal." Id. at 8.In addition, in a paper published in Junc of last year, Charles Rhodes demonstrated the feasibility ofon-channcl digital repeatcrs based on the successful field tests of Paul Burkeholder, Humboldt County TV District. Ncvada, and Sam Zborowski, vice president and chief technical officer of ADC Wireless Group, in Pittsburgh. Charles Rhodes, "Engineering and On-Channel Off-Air DTV Repeater," TV Technology (June 28, 2000). Recently, a variety of other pilot projects have been initiated as well. For instance, WPSX, licensed to the Pennsylvania State University, has received funding from the Department of Commerce and an FCC expenmental license (issued in lune, 2001) to test on-channel repeaters to reach populations living in the valleys of central Pennsylvania. See Letter from H. John Morgan, Assistant Chief, Video Services Division, Mass Media Bureau, to The Pennsylvania State University (June 26, 2001), 1800E-1HJM, File No. BEXP-2001060RABD. See also The Pennsylvania State University's Comments, MM Docket No. 00-39 (May 17, 2000). Further, WSKG, Binghamton, New York, has received a grant from the Corporation for Public Broadcasting to test the feasibility of implementing multiple low-power on-channel DTV repeaters to deliver its DTV signal to the many remote rural populations of up-state New York.

[79] First, distributed transmission technologies use digital modulation, which is more spectrum-efficient and less prone to cause interference with adjacent channels and other services than analog technology. For example, protection ratios are more favorable with DTV signals than with NTSC signals, and DTV receivers are less sensitive to interference than NTSC receivers. In additioti, DTV signals require less power than NTSC signals to reach thc same service area. Secondly this technology is spectrum efficient because all stations in a network use the same channel.

proceeding that it has developcd specifications for synchronization of multiple transmitters emitting 8-VSB signals in accordance with A/53B, a development which Public Television applauds. Public Television believes that distributed transmission networks will serve to promote the DTV transition by providing digital signals in areas whcre, due to terrain or other factors, distribution of a digital signal would be otherwise difficult

Public Television therefore supports the development of distributed transmission networks. In this case, the Commission should give a limited primary status to DTV stations in a distributed transmission network and license them under part 73 of its rules.[80] This priority should be given to such networks if they serve the predicted **DTV** contour of a full power DTV operation and should be treated with the interference protection due to a full power DTV operation.*[81] With regard to the more technical issues raised by the Commission's Notice,[82] Public Television supports the policies suggested by the Menill Weiss Group in its comments in this proceeding."

F. ATSC Issues

The Commission has sought comment on a number of issues relating to recent revisions of the ATSC standard and has asked whether it should incorporate some or all

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[80] See NPKM, ¶ 101

[81] See also Comments of Merrill Weiss Group, MB Docket No. 03-15 (April 21, 2003), pp. 16-17. Public Television believes that it would be better to limit these networks lo the predicted DTV service contour of a hypothetical full power DTV transmitler, rather than a Grade B contour, which is a measure Of analog distribution and wholly inappropriate to the measurement of DTV service areas. See NPRM, ¶ 102. Similarly, digital on-channel repeaters that serve the predicted service contour of an associated full-power DTV station should also get the same degree ***of*** interference protection.

[82] **NPRM,** ¶ 102 *et. seq*

[xi] Comments of Merrill Weiss Group, MB Docket No. 03-15 (April 21, 2003).

elements of the revised ATSC standard A/53B into its rules.[84] Public Television agrees with the Commission that updating the rules would reflect improvements in the standard and will benefit both the public and broadcasters by allowing broadcasters to make tcchnical improvements in their service that will enhance the quality of DTV services they provide.[85] Public Tclevision strongly supports the comments of ATSC fled in this procceding that request incorporation of A/53B Amendment 2 (transport stream amendments) into Commission rules. Jn addition, Public Television applauds ATSC for its development (currently underway) of a second "robust" data stream that will allow reception at lower signal-to-noise ratios than the main data and that will enable better mobile reception of DTV signals. Public Television also supports ATSC's request that the Program and System Information Protocol (PSIP) Standard be incorporated into the Commission's rules. It is important that viewers be provided with a uniform approach to channel selection and navigation for DTV services, a functionality that mandatory PSIP rules will provide. Details on the PSIP protocols (including inclusion of the PSIP Captioning Service Descriptor) can be found in the ATSC comments in this proceeding, which Public Tclevision strongly supports.

[84] NPRM, ¶ 113

[85] Id.

Conclusion

Public Television urges the Commission to advance the digital transition by adopting the following policies:

- Modify the financial hardship standard when granting extensions to the digital facilities construction deadline to reflect the unique and divcrsc ways in which public tclevision stations are funded.
- Create reasonable and limited transitional digital cable carriage rules.
- Ensure that thc cntircty of a station's free, over-the-air digital broadcast signal is carried by cable systems both during and after the transition is complete.
- Facilitate the operation of digital translators (and digital on-channel repeaters) so that the digital transition may proceed in rural as well as urban areas.
- Require maximization and replication of digital facilities only at the end of the digital transition.
- Retain the December 31, 2005 city grade signal requirement.
- Use Niclsen DMAs for purposes of Section 309(j)(14)(B) and only count technology that can bring all formats of digital signals into consumer homes (either in digital or down-converted to analog in the home).
- Conduct the bulk of thc market analysis required by Section 309(j)(14)(B) and its legislative history.
- Authorize distributed transmission technologies and grant such technologies limitcd priority status.
- Adopt the revised ATSC standard A/53B and other noted recommendations of ATSC

Respectfully submitted,

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